



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/677,537

10/03/2003

Tetsujiro Kondo

243480US6

2304

22850

7590

12/24/2008

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

MOTSINGER, SEAN T

ART UNIT

PAPER NUMBER

2624

NOTIFICATION DATE

DELIVERY MODE

12/24/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Response to Applicants Arguments/Amendments

Applicants arguments/amendments filed on 12/10/2008 have been entered and made of record.

The terminal disclaimer has over come the double patenting rejection and it is therefore withdrawn.

Applicants arguments filed with respect to 35 U.S.C. 103 have been fully considered but are not persuasive. Applicant argues that Gaffin does not disclose the feature "a feature value that is based on a value of said each pixel and a pixel peripheral to said each pixel" and "More particularly a feature value that is based on a value a pixel and a pixel peripheral to the pixel as claimed." The examiner disagrees, with applicants assessment, applicant merely cites the portions reference by the examiner and concludes that the feature value is not shown in the reference. However applicant fails to recognize the fact "features" disclosed in Gaffin are infact values which are based on a value a pixel and a pixel peripheral to the pixel as claimed . As is understood from column 2 lines 23-32 the binary information (which is the feature value) is a value which is based on a pixel and a peripheral pixel (a 5X5 pixel window).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,020,925 issued to Jung ("Jung") in view of U.S. Patent Number 4,754,490 issued to Swonger ("Swonger") and further in view of U.S. Patent Number 6,625,317 issued to Gaffin et al. ("Gaffin").

For claim 1, Jung discloses a device that detects position information corresponding to a feature value that is based on a value of the target pixel of which a motion vector is to be determined, the feature value representing said feature of said target pixel (column 4 lines 11-21 and 45-58), that determines a centroid of candidate pixels of the first frame which are identified with the position information (column 4 line 50), and that detects a motion vector of the target pixel from the position of the target pixel and the centroid (column 4 lines 53-58).

Swonger discloses a device where the image memory stores position information of each pixel of a frame at an address corresponding to a feature value that is based on a value of the pixel, the feature value representing a feature of the pixel (abstract, figures 1 and 3, column 1 lines 53-68, column 3 lines 17-27).

It would have been obvious to one of ordinary skill in the art at the time of invention to use the pixel position addressable by pixel feature memories of Swonger

Art Unit: 2624

with motion prediction device of Jung for the benefit of easily identifying the location of pixels with a certain feature as taught by Swonger when determining a motion vector from a plurality of candidates having the feature as taught by Jung.

Although Swonger does not explicitly disclose that the feature is based on a value of the pixel and a pixel peripheral to the pixel, using these pixels as the feature is well known as being within the ordinary capabilities of a person of ordinary skill in the art at the time of invention as disclosed by Gaffin (abstract, figure 4, column 2 lines 23-22, column 3 lines 36-47).

It would have been obvious to one of ordinary skill in the art at the time of invention to use the pixel position addressable by pixel feature memories of Swonger and Gaffin with the device of Jung because the particular known technique of storing the position of a pixel at an address corresponding to a feature was recognized as part of the ordinary capabilities of one skilled in the art. In this particular case, all the claim elements were known in the prior art and one skilled in the art could have combined the elements with no change in their respective functions, and the combination would have yielded predictable results.

For claims 2, 3, and 15, which disclose the elements of claim 1 expressed in method and computer memory forms, these claims are rejected based on Swonger, Gaffin and Jung for the reasons given in the rejection of claim 1, because using the apparatus of claim 1 to perform the method of claim 2 or to store a computer program which when executed by a processor performs the method of claim 2 is within the ordinary skill in the art at the time of invention.

Claims 1-3 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Application No. JP11258472 by Kondo ("Kondo") published March 30, 2001 in view of U.S. Patent Number 5,576,772 issued to Kondo ("Kondo II"), U.S. Patent Number 4,754,490 issued to Swonger ("Swonger"), and U.S. Patent Number 6,625,317 issued to Gaffin et al. ("Gaffin").

For claim 1, Kondo discloses a device that determines a centroid of candidate pixels of the first frame which are identified with the position information detected by the position information detected by the first detecting means (see 21 of Fig. 5), and second detecting means for detecting a motion vector of the target pixel from the position of the target pixel and the centroid (see 22 of Fig. 5, see also Figs. 6A, 6B, and 6C), along with storing means for storing position information of pixels of a first frame that is earlier in time than a second frame (see image memory storing means element 24 of Fig. 5) and first detecting means for detecting the position information stored at an address (see Figs. 6A-6C).

Kondo II discloses a device that detects position information of a target pixel of which a motion vector is to be determined based on a feature of the target pixel (see Figs. 9A-9C).

Swonger discloses a device where the image memory stores position information of each pixel of a frame at an address corresponding to a feature value that is based on a value of the pixel, the feature value representing a feature of the pixel (abstract, figures 1 and 3, column 1 lines 53-68, column 3 lines 17-27).

Art Unit: 2624

Although Swonger does not explicitly disclose that the feature is based on a value of the pixel and a pixel peripheral to the pixel, using these pixels as the feature is well known as being within the ordinary capabilities of a person of ordinary skill in the art at the time of invention as disclosed by Gaffin (abstract, figure 4, column 2 lines 23-22, column 3 lines 36-47).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the feature based memory of Swonger and Gaffin with the feature based motion vector device of Kondo II for the benefit of retrieving candidate pixels that have a given feature as taught by Kondo II using a memory address that corresponds to the feature as taught by Swonger. It would have been obvious to use the combination of Swonger and Kondo II with the device of Kondo for determining a motion vector from a plurality of candidate motion vectors using the centroid as taught by Kondo.

For claims 2, 3, and 15, which disclose the elements of claim 1 expressed in method and computer memory forms, these claims are rejected based on Swonger, Gaffin, and Kondo I and II for the reasons given in the rejection of claim 1, because using the apparatus of claim 1 to perform the method of claim 2 or to store a computer program which when executed by a processor performs the method of claim 2 is within the ordinary skill in the art at the time of invention.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 2624

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN MOTSINGER whose telephone number is (571)270-1237. The examiner can normally be reached on 9-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571)272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2624

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jingge Wu/
Supervisory Patent Examiner, Art Unit 2624

Motsinger
12/10/2008